

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:24

First Dose M/F: NA / NA

Lab: AD LITTLE

C Number: C88031

Lock Date: 06/11/1992

Cage Range: All

Date Range: All

Reasons For Removal: All

Removal Date Range: All

Treatment Groups: All

Study Gender: Both

PWG Approval Date NONE

Experiment Number: 88031-03
 Test Type: 90-DAY
 Route: DOSED WATER
 Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: Dipropylene glycol
CAS Number: 25265-71-8

Date Report Requested: 10/23/2014
 Time Report Requested: 13:17:24
 First Dose M/F: NA / NA
 Lab: AD LITTLE

F 344/N Rat Male
VEHICLE CONTROL

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1	1	1
	2	2	2	2	2	2	2	2	2	3
	1	2	3	4	5	6	7	8	9	0

*TOTALS

Alimentary System

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Acinus, Atrophy, Focal						1					1 1.0
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

Cardiovascular System

Blood Vessel	+	+	+	+	+	+	+	+	+	+	10
Heart	+	+	+	+	+	+	+	+	+	+	10
Cardiomyopathy					1	1	1	2	2	2	7 1.4

Endocrine System

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Capsule, Fibrosis, Focal							2		1		2.0

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03
Test Type: 90-DAY
Route: DOSED WATER
Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: Dipropylene glycol
CAS Number: 25265-71-8

Date Report Requested: 10/23/2014
Time Report Requested: 13:17:24
First Dose M/F: NA / NA
Lab: AD LITTLE

F 344/N Rat Male
VEHICLE CONTROL

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1	1	1
	2	2	2	2	2	2	2	2	2	3
	1	2	3	4	5	6	7	8	9	0
	*TOTALS									
Adrenal Medulla	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	+	+	+	+	+	+	+	M	+	9
Pituitary Gland	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	10
General Body System										
NONE										
Genital System										
Epididymis	+	+	+	+	+	+	+	+	+	10
Preputial Gland	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	+	10
Inflammation, Subacute						2	2		2	2.0
Seminal Vesicle	+	+	+	+	+	+	+	+	+	10
Testes	+	+	+	+	+	+	+	+	+	10
Hematopoietic System										
Bone Marrow	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	10
Hemorrhage	2	2	2	2				4	2.0	
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	10

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03
Test Type: 90-DAY
Route: DOSED WATER
Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: Dipropylene glycol
CAS Number: 25265-71-8

Date Report Requested: 10/23/2014
Time Report Requested: 13:17:25
First Dose M/F: NA / NA
Lab: AD LITTLE

F 344/N Rat Male
VEHICLE CONTROL

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1	1	1
	2	2	2	2	2	2	2	2	2	3
	1	2	3	4	5	6	7	8	9	0

*TOTALS

Integumentary System

Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10

Musculoskeletal System

Bone	+	+	+	+	+	+	+	+	+	+	10
------	---	---	---	---	---	---	---	---	---	---	----

Nervous System

Brain	+	+	+	+	+	+	+	+	+	+	10
-------	---	---	---	---	---	---	---	---	---	---	----

Respiratory System

Lung	+	+	+	+	+	+	+	+	+	+	10
Alveolar Epith, Hyperplasia, Focal						2					1 2.0
Nose	+	+	+	+	+	+	+	+	+	+	10
Fungus						2					1 2.0
Inflammation, Acute						2					1 2.0
Trachea	+	+	+	+	+	+	+	+	+	+	10

Special Senses System

NONE

Urinary System

Kidney	+	+	+	+	+	+	+	+	+	+	10
Infiltration Cellular, Lymphocyte						1					1 1.0

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:25

First Dose M/F: NA / NA

Lab: AD LITTLE

F 344/N Rat Male

VEHICLE CONTROL

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1	1	1
	2	2	2	2	2	2	2	2	2	3
	1	2	3	4	5	6	7	8	9	0
	*TOTALS									
Renal Tubule, Regeneration	1	1	1	1	1			1	1	1.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	10

Renal Tubule, Regeneration

1 1 1 1 1 1 1 1 1 1 1.0

Urinary Bladder

++ + + + + + + + + + 10

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:25

First Dose M/F: NA / NA

Lab: AD LITTLE

**F 344/N Rat Male
0.5%**

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1	1	1
	3	3	3	3	3	3	3	3	3	4
	1	2	3	4	5	6	7	8	9	0

*TOTALS

Alimentary System

Liver

+ + 2

Hepatodiaphragmatic Nodule, Multiple

X 1

Cardiovascular System

NONE

Endocrine System

Adrenal Cortex

+ + + + + + + + + + 10

Hypertrophy

1 1 1 2 2 1 1 1 7 1.3

General Body System

NONE

Genital System

NONE

Hematopoietic System

Lymph Node, Mandibular

+ 1

Integumentary System

NONE

Musculoskeletal System

NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:25

First Dose M/F: NA / NA

Lab: AD LITTLE

F 344/N Rat Male
1.0%

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

Alimentary System

| | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|----|
| Liver | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Forestomach | | | | | | | | | | + | 1 |

Cardiovascular System

NONE

Endocrine System

| | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|-------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 10 |
| Hypertrophy | 1 | | 1 | 1 | | 1 | | 1 | | | 5 1.0 |

General Body System

NONE

Genital System

NONE

Hematopoietic System

| | | | |
|------------------------|---|---|-----|
| Lymph Node, Mandibular | + | 1 | |
| Hemorrhage | 1 | 1 | 1.0 |

Integumentary System

NONE

Musculoskeletal System

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal
- 3) Moderate
- 2) Mild
- 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:25

First Dose M/F: NA / NA

Lab: AD LITTLE

F 344/N Rat Male
1.0%

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

NONE

Nervous System

NONE

Respiratory System

NONE

Special Senses System

NONE

Urinary System

Kidney

+ + + + + + + + + + 10

1 1 1.0

Infiltration Cellular, Lymphocyte

1 1 1.0

Renal Tubule, Casts Protein

3 1.0

Renal Tubule, Regeneration

7 1.0

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:25

First Dose M/F: NA / NA

Lab: AD LITTLE

F 344/N Rat Male
2.0%

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

Alimentary System

| | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|-------|
| Liver | + | + | + | + | + | + | + | + | + | + | 10 |
| Congestion | | 1 | | | | | | | | | 1 1.0 |
| Fatty Change | | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 1.0 |

Cardiovascular System

NONE

Endocrine System

| | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|-------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 10 |
| Hypertrophy | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 6 1.0 |

General Body System

NONE

Genital System

NONE

Hematopoietic System

| | | | | | | | | | | | |
|----------------------------------|---|---|---|--|--|--|--|--|--|--|-------|
| Lymph Node | + | | | | | | | | | | 1 |
| Lumbar, Pigmentation, Multifocal | | 1 | | | | | | | | | 1 1.0 |
| Renal, Hemorrhage | | 3 | | | | | | | | | 1 3.0 |
| Lymph Node, Mandibular | | | M | | | | | | | | 0 |

Integumentary System

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:25

First Dose M/F: NA / NA

Lab: AD LITTLE

**F 344/N Rat Male
2.0%**

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | |

*TOTALS

NONE

Musculoskeletal System

NONE

Nervous System

NONE

Respiratory System

NONE

Special Senses System

NONE

Urinary System

Kidney

 + + + + + + + + + + 10

Infiltration Cellular, Lymphocyte

 1 1 2 1.0

Renal Tubule, Casts Protein

 1 1 1 1 4 1.0

Renal Tubule, Regeneration

 1 1 1 1 4 1.0

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal
- 3) Moderate
- 2) Mild
- 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:25

First Dose M/F: NA / NA

Lab: AD LITTLE

F 344/N Rat Male
4.0%

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | * |

*TOTALS

Alimentary System

| | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|--------|
| Liver | + | + | + | + | + | + | + | + | + | + | 10 |
| Fatty Change | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 10 2.2 |
| Hepatodiaphragmatic Nodule | X | | | | | | | | | | 1 |
| Necrosis, Focal | 2 | 1 | | 1 | | 1 | | | | | 4 1.3 |

Cardiovascular System

NONE

Endocrine System

| | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|-------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 10 |
| Hypertrophy | 2 | 2 | 2 | 1 | 1 | | | | | 1 | 6 1.5 |

General Body System

NONE

Genital System

| | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|----|
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | 10 |
| Testes | + | + | + | + | + | + | + | + | + | + | 10 |

Hematopoietic System

| | | | | | | | | | | | |
|-------------------------|--|---|---|--|---|--|---|--|--|---|-----|
| Lymph Node | | + | + | | | | | | | | 2 |
| Mediastinal, Hemorrhage | | | | | | | 3 | | | 1 | 3.0 |
| Renal, Hemorrhage | | | | | 3 | | | | | 1 | 3.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:25

First Dose M/F: NA / NA

Lab: AD LITTLE

**F 344/N Rat Male
4.0%**

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

Lymph Node, Mandibular

+ 1

1

Hemorrhage

1 1 1.0

Integumentary System

NONE

Musculoskeletal System

Bone

+ + + + + + + + + + 10

Nervous System

NONE

Respiratory System

Lung

+ + 3

Hemorrhage, Focal

1 1 1.0

Inflammation, Subacute, Focal

1 3 2 2.0

Nose

+ + + + + + + + + + 10

Fungus

2 1 2.0

Hemorrhage

2 1 2.0

Inflammation, Acute

2 1 2.0

Special Senses System

NONE

Urinary System

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:25

First Dose M/F: NA / NA

Lab: AD LITTLE

F 344/N Rat Male

4.0%

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

***TOTALS**

| | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|--------|
| Kidney | + | + | + | + | + | + | + | + | + | + | 10 |
| Infiltration Cellular, Lymphocyte | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 6 1.0 |
| Renal Tubule, Casts Protein | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 10 1.3 |
| Renal Tubule, Regeneration | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 9 1.2 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:25

First Dose M/F: NA / NA

Lab: AD LITTLE

F 344/N Rat Male
8.0%

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | * |

*TOTALS

Alimentary System

| | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|-----|-----|--------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | 10 |
| Liver | + | + | + | + | + | + | + | + | + | + | 10 |
| Atypical Focus, Multiple | 3 | 3 | 4 | 3 | 3 | 3 | 2 | 4 | 8 | 3.1 | |
| Fatty Change | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 10 2.8 |
| Fibrosis, Focal | | | | | 1 | | | | 1 | 1.0 | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 10 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | 10 |
| Tooth | | | | | | | + | | 1 | | |
| Dentine, Degeneration | | | | | | 3 | | 1 | 3.0 | | |

Cardiovascular System

| | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|----|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | 10 |
| Heart | + | + | + | + | + | + | + | + | + | + | 10 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03
Test Type: 90-DAY
Route: DOSED WATER
Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: Dipropylene glycol
CAS Number: 25265-71-8

Date Report Requested: 10/23/2014
Time Report Requested: 13:17:25
First Dose M/F: NA / NA
Lab: AD LITTLE

F 344/N Rat Male
8.0%

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

Endocrine System

| | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|--------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 10 |
| Hypertrophy | 2 | 3 | 3 | 2 | 3 | 1 | 2 | 2 | 2 | 2 | 10 2.2 |
| Vacuolization Cytoplasmic, Focal | | | | | | 1 | | | | | 1 1.0 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | 10 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | 10 |
| Parathyroid Gland | + | + | + | + | + | M | + | + | M | + | 8 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | 10 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | 10 |

General Body System

NONE

Genital System

| | | | | | | | | | | | |
|--------------------|---|---|---|---|---|---|---|---|---|---|--------|
| Epididymis | + | + | + | + | + | + | + | + | + | + | 10 |
| Hypospermia | | 4 | | 4 | | 2 | 4 | 2 | | 4 | 6 3.3 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | 10 |
| Atrophy | 2 | 1 | | 2 | 2 | | | | 3 | | 5 2.0 |
| Prostate | + | + | + | + | + | + | + | + | + | + | 10 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | 10 |
| Depletion Cellular | | | | | | 3 | | 2 | | | 2 2.5 |
| Testes | + | + | + | + | + | + | + | + | + | + | 10 |
| Atrophy | 3 | 4 | 3 | 4 | 3 | 3 | 4 | 3 | 2 | 4 | 10 3.3 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 88031-03
 Test Type: 90-DAY
 Route: DOSED WATER
 Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: Dipropylene glycol
CAS Number: 25265-71-8

Date Report Requested: 10/23/2014
 Time Report Requested: 13:17:25
 First Dose M/F: NA / NA
 Lab: AD LITTLE

| F 344/N Rat Male
8.0% | DAY ON TEST | | | | | | | | | | |
|----------------------------------------|-------------|---|---|---|---|---|---|---|---|---|---------|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | *TOTALS |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Hematopoietic System

| | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|-------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 10 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | 10 |
| Hemorrhage | 1 | 2 | 2 | 2 | | | | | | | 4 1.8 |
| Hyperplasia, Lymphoid | | | | | | | | | | | 2 1.0 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | 10 |
| Spleen | + | + | + | + | + | + | + | + | + | + | 10 |
| Thymus | + | + | + | + | + | + | + | + | + | + | 10 |
| Hemorrhage | | | | | 1 | 1 | | | | | 3 1.0 |

Integumentary System

| | | | | | | | | | | | |
|---------------|---|---|---|---|---|---|---|---|---|---|----|
| Mammary Gland | + | + | + | + | + | M | + | + | M | + | 8 |
| Skin | + | + | + | + | + | + | + | + | + | + | 10 |

Musculoskeletal System

| | | | | | | | | | | | |
|------|---|---|---|---|---|---|---|---|---|---|----|
| Bone | + | + | + | + | + | + | + | + | + | + | 10 |
|------|---|---|---|---|---|---|---|---|---|---|----|

Nervous System

| | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|----|
| Brain | + | + | + | + | + | + | + | + | + | + | 10 |
|-------|---|---|---|---|---|---|---|---|---|---|----|

Respiratory System

| | | | | | | | | | | | |
|------------------------------------|---|---|---|---|---|---|---|---|---|---|--------|
| Lung | + | + | + | + | + | + | + | + | + | + | 10 |
| Nose | + | + | + | + | + | + | + | + | + | + | 10 |
| Olfactory Epi, Degeneration, Focal | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 10 3.1 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:25

First Dose M/F: NA / NA

Lab: AD LITTLE

F 344/N Rat Male
8.0%

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | |

*TOTALS

Trachea

+ + + + + + + + + +

10

Special Senses System

NONE

Urinary System

Kidney

+ + + + + + + + + +

10

Infiltration Cellular, Lymphocyte

1 1 1 1 1

4 1.0

Renal Tubule, Casts Protein

2 1 2 2 2 2 1 2 2 2

10 1.8

Renal Tubule, Hemorrhage

1

1 1.0

Renal Tubule, Regeneration

1 1 1 1 1 1 1 1 1

8 1.0

Urinary Bladder

+ + + + + + + + + +

10

END OF MALE DATA

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:25

First Dose M/F: NA / NA

Lab: AD LITTLE

**F 344/N Rat Female
VEHICLE CONTROL**

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

TOTALS*Alimentary System**

| | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|-------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | 10 |
| Liver | + | + | + | + | + | + | + | + | + | + | 10 |
| Developmental Malformation, Focal | | 2 | | | | | | | | | 1 2.0 |
| Hepatodiaphragmatic Nodule | | | | | | | X | | | | 1 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 10 |
| Acinus, Atrophy, Focal | | 2 | | 1 | | | | | | | 2 1.5 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | 10 |

Cardiovascular System

| | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|----|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | 10 |
| Heart | + | + | + | + | + | + | + | + | + | + | 10 |

Endocrine System

| | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|----|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 10 |
|----------------|---|---|---|---|---|---|---|---|---|---|----|

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03
Test Type: 90-DAY
Route: DOSED WATER
Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: Dipropylene glycol
CAS Number: 25265-71-8

Date Report Requested: 10/23/2014
Time Report Requested: 13:17:26
First Dose M/F: NA / NA
Lab: AD LITTLE

F 344/N Rat Female
VEHICLE CONTROL

| DAY ON TEST | | | | | | | | | | |
|-----------------------------|----------------|---|---|---|---|---|---|---|---|-----|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | *TOTALS | | | | | | | | | |
| Hyperplasia, Focal | 2 | | | | | | | | 1 | 2.0 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | 10 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | 10 |
| Parathyroid Gland | M | + | + | + | + | M | + | + | + | 8 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | 10 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | 10 |
| General Body System | | | | | | | | | | |
| NONE | | | | | | | | | | |
| Genital System | | | | | | | | | | |
| Clitoral Gland | + | + | + | + | + | + | + | + | + | 10 |
| Ovary | + | + | + | + | + | + | + | + | + | 10 |
| Uterus | + | + | + | + | + | + | + | + | + | 10 |
| Dilatation | 3 | | | | | | | | 1 | 3.0 |
| Hematopoietic System | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | 10 |
| Lymph Node | | | | | | | | | + | 1 |
| Bronchial, Hemorrhage | | | | | | | | 1 | | 1.0 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | 10 |
| Hemorrhage | | | | | | | | 2 | 2 | 2.0 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | 10 |
| Spleen | + | + | + | + | + | + | + | + | + | 10 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:26

First Dose M/F: NA / NA

Lab: AD LITTLE

**F 344/N Rat Female
VEHICLE CONTROL**

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

***TOTALS**

Thymus

+ + + + + + + + + + 10

Hemorrhage

1 1 1.0

Integumentary System

Mammary Gland

+ + + + + + + + + + 10

Skin

+ + + + + + + + + + 10

Musculoskeletal System

Bone

+ + + + + + + + + + 10

Nervous System

Brain

+ + + + + + + + + + 10

Respiratory System

Lung

+ + + + + + + + + + 10

Hemorrhage, Focal

1 1 1 3 1.0

Infiltration Cellular, Lymphocyte

2 2 2 2.0

Inflammation, Subacute, Focal

1 1 1.0

Nose

+ + + + + + + + + + 10

Trachea

+ + + + + + + + + + 10

Special Senses System

NONE

Urinary System

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:26

First Dose M/F: NA / NA

Lab: AD LITTLE

**F 344/N Rat Female
VEHICLE CONTROL**

| DAY ON TEST | | | | | | | | | | |
|-----------------|----------------|---|---|---|---|---|---|---|---|----|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | *TOTALS | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | 10 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | 10 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:26

First Dose M/F: NA / NA

Lab: AD LITTLE

F 344/N Rat Female
0.5%

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

Alimentary System

NONE

Cardiovascular System

NONE

Endocrine System

Adrenal Cortex

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|-----|
| + | + | + | + | + | + | + | + | + | + | 10 |
| 1 | 2 | | | 1 | 1 | 2 | 1 | 1 | 1 | 8 |
| | | | | | | | | | | 1.3 |

Hypertrophy

General Body System

NONE

Genital System

Uterus

| | | |
|---|---|-----|
| + | | 1 |
| | 3 | |
| | | 1 |
| | | 3.0 |

Dilatation

Hematopoietic System

Lymph Node, Mandibular

| | | |
|---|--|---|
| + | | 1 |
| | | 2 |

Thymus

| | | |
|---|---|---|
| + | + | |
| | | 2 |

Integumentary System

Skin

| | | |
|---|--|---|
| + | | 1 |
|---|--|---|

Musculoskeletal System

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:26

First Dose M/F: NA / NA

Lab: AD LITTLE

F 344/N Rat Female
0.5%

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

NONE

Nervous System

NONE

Respiratory System

NONE

Special Senses System

NONE

Urinary System

Kidney

+ + + + + + + + + + 10

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:26

First Dose M/F: NA / NA

Lab: AD LITTLE

F 344/N Rat Female
1.0%

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

Alimentary System

| | | |
|--------------------------------------|---|-------|
| Liver | + | 1 |
| Hepatodiaphragmatic Nodule, Multiple | 3 | 1 3.0 |

Cardiovascular System

NONE

Endocrine System

| | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|--------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 10 |
| Hypertrophy | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 10 1.6 |
| Pituitary Gland | | | | | + | | | | | | 1 |
| Pars Distalis, Hyperplasia, Focal | | | | | 2 | | | | | | 1 2.0 |

General Body System

NONE

Genital System

| | | | | |
|------------|---|---|---|-------|
| Ovary | + | + | + | 3 |
| Uterus | | | + | 1 |
| Dilatation | | | 2 | 1 2.0 |

Hematopoietic System

| | | |
|-------------------------|---|-------|
| Lymph Node | + | 1 |
| Mediastinal, Hemorrhage | 2 | 1 2.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:26

First Dose M/F: NA / NA

Lab: AD LITTLE

**F 344/N Rat Female
1.0%**

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

| | | |
|------------------------|---|-------|
| Lymph Node, Mandibular | + | 1 |
| Hemorrhage | 2 | 1 2.0 |
| Thymus | | + |
| Hemorrhage | | 1 1.0 |

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

NONE

Respiratory System

NONE

Special Senses System

NONE

Urinary System

Kidney

++ + + + + + + + + + 10

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:26

First Dose M/F: NA / NA

Lab: AD LITTLE

**F 344/N Rat Female
2.0%**

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

Alimentary System

| | | | | | | | |
|----------------------------|---|--|--|---|---|--|---|
| Liver | + | | | + | + | | 3 |
| Hepatodiaphragmatic Nodule | X | | | | X | | 2 |

Cardiovascular System

NONE

Endocrine System

| | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|-----|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 10 |
| Hypertrophy | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 10 |
| Adrenal Medulla | | | | | + | | | | | | 1.4 |
| | | | | | | | | | | | 1 |

General Body System

NONE

Genital System

| | | | | | | | | |
|------------|---|--|---|--|---|--|---|-----|
| Uterus | + | | + | | + | | 3 | |
| Dilatation | 2 | | 2 | | 1 | | 3 | 1.7 |

Hematopoietic System

| | | | | | | | | |
|-------------------------|---|--|--|---|---|--|---|-----|
| Lymph Node | + | | | + | | | 2 | |
| Mediastinal, Hemorrhage | 2 | | | 1 | | | 2 | 1.5 |
| Lymph Node, Mandibular | + | | | | + | | 2 | |
| Hemorrhage | 2 | | | 2 | | | 2 | 2.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:26

First Dose M/F: NA / NA

Lab: AD LITTLE

**F 344/N Rat Female
2.0%**

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

NONE

Respiratory System

NONE

Special Senses System

NONE

Urinary System

Kidney

+ + + + + + + + + + 10

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:26

First Dose M/F: NA / NA

Lab: AD LITTLE

**F 344/N Rat Female
4.0%**

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

Alimentary System

| | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|-------|
| Liver | + | + | + | + | + | + | + | + | + | + | 10 |
| Hepatodiaphragmatic Nodule | | | | 3 | | | | | | | 1 3.0 |

Cardiovascular System

NONE

Endocrine System

| | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|--------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 10 |
| Hypertrophy | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 10 1.7 |

General Body System

NONE

Genital System

| | | | | | | | | | | | |
|------------|---|---|--|--|--|--|---|--|--|--|-------|
| Ovary | + | | | | | | | | | | 1 |
| Cyst | | 3 | | | | | | | | | 1 3.0 |
| Uterus | + | + | | | | | + | | | | 3 |
| Dilatation | 2 | | | | | | 2 | | | | 2 2.0 |

Hematopoietic System

| | | | | | | | | | | | |
|-------------------|--|---|---|---|--|--|--|--|--|--|-------|
| Lymph Node | | + | | | | | | | | | 1 |
| Renal, Hemorrhage | | | 2 | | | | | | | | 1 2.0 |
| Thymus | | | | + | | | | | | | 1 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:26

First Dose M/F: NA / NA

Lab: AD LITTLE

**F 344/N Rat Female
4.0%**

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | |

*TOTALS

Integumentary System

NONE

Musculoskeletal System

Bone

+

+

+

+

+

+

+

+

+

+

10

Nervous System

NONE

Respiratory System

Nose

+

+

+

+

+

+

+

+

+

+

10

Special Senses System

NONE

Urinary System

Kidney

+

+

+

+

+

+

+

+

+

+

10

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal
- 2) Mild
- 3) Moderate
- 4) Marked

Experiment Number: 88031-03
Test Type: 90-DAY
Route: DOSED WATER
Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: Dipropylene glycol
CAS Number: 25265-71-8

Date Report Requested: 10/23/2014
Time Report Requested: 13:17:26
First Dose M/F: NA / NA
Lab: AD LITTLE

| F 344/N Rat Female
8.0% | DAY ON TEST | | | | | | | | | | |
|------------------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

Alimentary System

| | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|-----|
| Esophagus | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | 10 |
| Liver | + | + | + | + | + | + | + | + | + | + | 10 |
| Atypical Focus | 2 | | | | | | | | | 1 | 2.0 |
| Fatty Change | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 10 |
| Hepatodiaphragmatic Nodule | | | | X | | | | | | | 1 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 10 |
| Acinus, Atrophy, Focal | | | | 2 | | | | | | 1 | 2.0 |
| Ectopic Liver, Focal | | | | 1 | | | | | | 1 | 1.0 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | 10 |

Cardiovascular System

| | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|-----|
| Blood Vessel | + | + | M | + | + | + | + | + | + | + | 9 |
| Heart | + | + | + | + | + | + | + | + | + | + | 10 |
| Cardiomyopathy | | | | | | 1 | | | | 1 | 1.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:26

First Dose M/F: NA / NA

Lab: AD LITTLE

**F 344/N Rat Female
8.0%**

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

TOTALS*Endocrine System**

| | | | | | | | | | | | |
|--------------------|---|---|---|---|---|---|---|---|---|---|-------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 10 |
| Hypertrophy | 1 | | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 9 1.1 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | 10 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | 10 |
| Parathyroid Gland | + | + | + | + | M | + | M | + | + | + | 8 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | 10 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | 10 |

General Body System

NONE

Genital System

| | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|-----|
| Clitoral Gland | + | + | + | + | + | + | + | M | + | 9 |
| Ovary | + | + | + | + | + | + | + | + | + | 10 |
| Uterus | + | + | + | + | + | + | + | + | + | 10 |
| Atrophy | | 2 | | 2 | | | | | 2 | 2.0 |
| Dilatation | | 3 | | | | | | | 1 | 3.0 |

Hematopoietic System

| | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|-----|----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 10 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | 10 |
| Hemorrhage | | 2 | | | | | | | 1 | 2.0 | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | 10 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88031-03
Test Type: 90-DAY
Route: DOSED WATER
Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: Dipropylene glycol
CAS Number: 25265-71-8

Date Report Requested: 10/23/2014
Time Report Requested: 13:17:26
First Dose M/F: NA / NA
Lab: AD LITTLE

F 344/N Rat Female
8.0%

| | DAY ON TEST | ANIMAL ID | | | | | | | | | | *TOTALS |
|------------------------------------|-------------|-----------|---|---|---|---|---|---|---|---|---|----------------|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | |
| Lymph Node, Mesenteric | | + | + | + | + | + | + | + | + | + | + | 10 |
| Spleen | | + | + | + | + | + | + | + | + | + | + | 10 |
| Ectopic Tissue | | | | | | X | | | | | | 1 |
| Thymus | | + | + | + | + | + | + | + | + | + | + | 10 |
| Integumentary System | | | | | | | | | | | | |
| Mammary Gland | | + | + | + | + | + | + | + | + | + | + | 10 |
| Skin | | + | + | + | + | + | + | + | + | + | + | 10 |
| Musculoskeletal System | | | | | | | | | | | | |
| Bone | | + | + | + | + | + | + | + | + | + | + | 10 |
| Nervous System | | | | | | | | | | | | |
| Brain | | + | + | + | + | + | + | + | + | + | + | 10 |
| Respiratory System | | | | | | | | | | | | |
| Lung | | + | + | + | + | + | + | + | + | + | + | 10 |
| Hemorrhage, Focal | | | | | | | | | | | | 1 |
| Nose | | + | + | + | + | + | + | + | + | + | + | 10 |
| Olfactory Epi, Degeneration, Focal | | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 10 |
| Respirat Epi, Degeneration, Focal | | 2 | | | | | | | | | | 3.1 |
| Trachea | | + | + | + | + | + | + | + | + | + | + | 10 |
| Special Senses System | | | | | | | | | | | | |
| NONE | | | | | | | | | | | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 88031-03

Test Type: 90-DAY

Route: DOSED WATER

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Dipropylene glycol

CAS Number: 25265-71-8

Date Report Requested: 10/23/2014

Time Report Requested: 13:17:26

First Dose M/F: NA / NA

Lab: AD LITTLE

**F 344/N Rat Female
8.0%**

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

Urinary System

| | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|-------|
| Kidney | + | + | + | + | + | + | + | + | + | + | 10 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | 2 1.0 |
| Renal Tubule, Casts Protein | 1 | 1 | | | 1 | 1 | 1 | 1 | 1 | 1 | 8 1.0 |
| Renal Tubule, Regeneration | | | | | | | | | | | 4 1.0 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | 10 |

** END OF REPORT **

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked